Amendments

In the Claims:

Claims 1-186 (Canceled).

187. (Previously presented): A method of producing a nucleic acid molecule comprising:

(a) providing a first nucleic acid molecule comprising at least one promoter and at least a first recombination site;

(b) providing a second nucleic acid molecule comprising at least one antibiotic resistance gene or portion thereof and at least a second recombination site; and

(c) forming a mixture *in vitro* between said first and second nucleic acid molecules and at least one site-specific recombination protein, under conditions sufficient to cause recombination *in vitro* between said first and second recombination sites, thereby producing a third nucleic acid molecule in which said promoter and said antibiotic resistance gene or portion thereof are operably linked to form a functional antibiotic resistance gene.

188. (Previously presented): The method of claim 187, wherein said antibiotic resistance gene or portion thereof, is selected from the group consisting of a chloramphenicol resistance gene or a portion thereof, an ampicillin resistance gene or a

portion thereof, a methicillin resistance gene or a portion thereof, a tetracycline resistance gene or a portion thereof and a kanamycin resistance gene or a portion thereof.

189. (Previously presented): The method of claim 187, wherein said antibiotic resistance gene or portion thereof is a chloramphenicol resistance gene or a portion thereof.

190. (Previously presented): The method of claim 187, wherein said first and second recombination sites are selected from the group consisting of *lox* sites, *att* sites, and mutants thereof.

191. (Previously presented): The method of claim 187, wherein said first and second recombination sites are selected from the group consisting of *lox* sites and *att* sites.

192. (Previously presented): The method of claim 187, wherein said first and second recombination sites are *lox* sites.

193. (Previously presented): The method of claim 192, wherein said *lox* sites are *lox*P sites.

194. (Previously presented): The method of claim 187, wherein said first and second recombination sites are *att* sites.

195. (Previously presented): The method of claim 194, wherein said *att* sites are selected from the group consisting of *att*B sites, *att*P sites, *att*L sites and *att*R sites.

196. (Previously presented): The method of claim 187, wherein said promoter is located immediately adjacent to said first recombination site.

197. (Previously presented): The method of claim 187, wherein said antibiotic resistance gene or portion thereof is located immediately adjacent to said second recombination site.

198. (Previously presented): The method of claim 187, wherein said at least one site-specific recombination protein is selected from the group consisting of Cre, Int, IHF, Xis, FLP, γδ, Tn3 resolvase, Hin, Gin, Cin and combinations thereof.

199. (Previously presented): The method of claim 187, wherein said at least one site-specific recombination protein is Cre.

200. (Previously presented): The method of claim 187, wherein said at least one site-specific recombination protein is selected from the group consisting of Int, IHF and Xis.

201. (Previously presented): The method of claim 187, wherein said first nucleic acid molecule or said second nucleic acid molecule or said third nucleic acid molecule is a vector.

202. (Previously presented): The method of claim 201, wherein said vector is an expression vector.

203. (Previously presented): The method of claim 187, wherein said first nucleic acid molecule or said second nucleic acid molecule is linear.

204. (Previously presented): The method of claim 187, further comprising contacting at least one host cell with said mixture, and selecting for a host cell comprising said third nucleic acid molecule.

205. (Previously presented): The method of claim 204, further comprising selecting against a host cell comprising said first or said second nucleic acid molecule.

206. (Previously presented): The method of claim 204, further comprising selecting against a host cell comprising said first and said second nucleic acid molecule.

207. (Previously presented): The method of claim 204, wherein said host cell is a prokaryotic cell.

208. (Previously presented): The method of claim 204, wherein said host cell is a bacterial cell.

209. (Previously presented): The method of claim 204, wherein said host cell is an *Escherichia coli* cell.

210. (Previously presented): The method of claim 187, further comprising introducing said third nucleic acid molecule into a host cell.

211. (Previously presented): The method of claim 187, further comprising introducing said third nucleic acid molecule into a host cell and expressing said antibiotic resistance gene or portion thereof.

212. (Previously presented): The method of claim 211, wherein said host cell is an *Escherichia coli* cell.

213. (Previously presented): A method of producing a nucleic acid molecule comprising:

(a) providing a first nucleic acid molecule comprising at least one promoter and at least a first *lox*P site;

(b) providing a second nucleic acid molecule comprising at least one antibiotic resistance gene or portion thereof and at least a second *lox*P site; and

(c) forming a mixture *in vitro* between said first and second nucleic acid molecules and at least one Cre recombination protein, under conditions

sufficient to cause recombination *in vitro* between said first and second *lox*P sites, thereby producing a third nucleic acid molecule in which said promoter and said antibiotic resistance gene or portion thereof are operably linked to form a functional antibiotic resistance gene.

214. (Previously presented): The method of claim 213, wherein said antibiotic resistance gene or portion thereof is selected from the group consisting of a chloramphenicol resistance gene or a portion thereof, an ampicillin resistance gene or a portion thereof, a methicillin resistance gene or a portion thereof, a tetracycline resistance gene or a portion thereof and a kanamycin resistance gene or a portion thereof.

215. (Previously presented): The method of claim 213, wherein said antibiotic resistance gene or portion thereof is a chloramphenicol resistance gene or a portion thereof.

216. (Previously presented): The method of claim 213, further comprising introducing said third nucleic acid molecule into a host cell.

217. (Previously presented): The method of claim 213, further comprising introducing said third nucleic acid molecule into a host cell and expressing said antibiotic resistance gene or portion thereof.

218. (Previously presented): The method of claim 216, wherein said host cell is an *Escherichia coli* cell.

219. (Previously presented) The method of claim 217, wherein said host cell is an *Escherichia coli* cell.

220-222. (Canceled).

223. (Previously presented): The method of claim 213, further comprising contacting at least one host cell with said mixture, and selecting for a host cell comprising said third nucleic acid molecule.

224. (Previously presented): The method of claim 223, further comprising selecting against a host cell comprising said first or said second nucleic acid molecule.

225. (Previously presented): The method of claim 223, further comprising selecting against a host cell comprising said first and said second nucleic acid molecule.

226-227 (Canceled).

228. (New): A method of producing a nucleic acid molecule comprising:

(a) providing a first nucleic acid molecule comprising at least one promoter and at least a first *att* site;

(b) providing a second nucleic acid molecule comprising at least one antibiotic resistance gene or portion thereof and at least a second *att* site; and

(c) forming a mixture *in vitro* between said first and second nucleic acid molecules and at least one Int recombination protein, under conditions sufficient to cause recombination *in vitro* between said first and second *att* sites, thereby producing a third nucleic acid molecule in which said promoter and said antibiotic resistance gene or portion thereof are operably linked to form a functional antibiotic resistance gene.

229. (New): The method of claim 228, wherein said antibiotic resistance gene or portion thereof is selected from the group consisting of a chloramphenicol resistance gene or a portion thereof, an ampicillin resistance gene or a portion thereof, a methicillin resistance gene or a portion thereof, a tetracycline resistance gene or a portion thereof and a kanamycin resistance gene or a portion thereof.

230. (New): The method of claim 228, wherein said antibiotic resistance gene or portion thereof is a chloramphenicol resistance gene or a portion thereof.

231. (New): The method of claim 228, further comprising introducing said third nucleic acid molecule into a host cell.

232. (New): The method of claim 228, further comprising introducing said third nucleic acid molecule into a host cell and expressing said antibiotic resistance gene or portion thereof.

233. (New): The method of claim 231, wherein said host cell is an *Escherichia coli* cell.

234. (New) The method of claim 232, wherein said host cell is an *Escherichia coli* cell.

235. (New): The method of claim 228, further comprising contacting at least one host cell with said mixture, and selecting for a host cell comprising said third nucleic acid molecule.

236. (New): The method of claim 235, further comprising selecting against a host cell comprising said first or said second nucleic acid molecule.

237. (New): The method of claim 235, further comprising selecting against a host cell comprising said first and said second nucleic acid molecule.

238. (New): The method of claim 228 wherein said first and second *att* sites are selected from the group consisting of *att*B sites, *att*P sites, *att*L sites and *att*R sites.

239. (New): The method of claim 187, wherein said first nucleic acid molecule or said second nucleic acid molecule further comprises at least one additional recombination site.

240. (New): The method of claim 239, wherein said at least one additional recombination site is a *lox* site or an *att* site.

241. (New): The method of claim 239, wherein said at least one additional recombination site is a *lox* site or a mutant thereof.

242. (New): The method of claim 239, wherein said at least one additional recombination site is a *lox* site.

243. (New): The method of claim 242, wherein said *lox* site is a *lox*P site.

244. (New): The method of claim 239, wherein said at least one additional recombination site is an *att* site or a mutant thereof.

245. (New): The method of claim 239, wherein said at least one additional recombination site is an *att* site.

246. (New): The method of claim 245, wherein said *att* site is selected from the group consisting of an *att*B site, an *att*P site, an *att*L site and an *att*R site.

247. (New): The method of claim 187, wherein said first nucleic acid molecule or said second nucleic acid molecule comprises at least one cloning site.

248. (New): The method of claim 187, wherein said gene or portion thereof is an amplification product.